Oregon Business Review

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University of Oregon Sponsors Labor-Management Research

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During the past few years, public concern with industrial relations and developments in the field of labor has increased tremendously. This growth in public interest is not surprising, nor is it surprising that many of the country's leading universities have shown an increased activity in the field. Since some of our most pressing domestic problems lie within the scope of management-employee relations, public and academic interest are bound to be directed toward them.

These problems include far more than the spectacular exhibitions staged all too frequently as a part of labor-management disputes. They extend to every area of our economic life—to the distribution of wealth and income between "labor" and "capital" groups, to the wise use of our resources (both human and material), to the development of improved technology, and to the safeguarding of the rights of individuals. Our government is well aware of these problems; the labor legislation placed into effect during the past fifteen years is ample proof. Yet, there is a lack of information on many vital points. Most available sources are biased, and the conclusions are misleading. Misunderstanding is widespread.

To help correct this situation, at least within the borders of the state of Oregon, the University of Oregon established in the fall of 1948 a Labor-Management Research Project for the purpose of gathering, analyzing, and cataloging information in the industrial-relations field. The project is not a new academic departure. Other educational institutions, particularly on the Pacific Coast where labor organization activity is aggressive in character, entered the field on a much larger scale a number of years ago. In 1945 the University of California established an Institute of Industrial Relations, with one division at Berkeley and another at Los Angeles. Both divisions are staffed with directors, research economists, statisticians, and clerical assistants. The University of Washington established a similar institute at Seattle in 1946. For over ten years Stanford University has been developing its Library of Industrial Relations, and the California Institute of Technology in Pasadena has long been interested in research in the field.

In the east, Yale University, Princeton University, Rhode Island State College, the University of Illinois, the University of Chicago, and others have instituted labor-manage-

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Opportunities for Expansion of Oregon Industry Surveyed

By CHESTER K. STERRETT
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The state of Oregon has enjoyed a tremendous industrial growth since 1940. The U. S. Census in that year listed a total of 81,569 persons in the state working in manufacturing industries; the estimate at the end of 1948 was around 145,000 workers. This expansion in employment is the result of the growth of existing industries, as well as the attraction of new industries to this territory. In the Portland area alone, over 600 new plants have started up since 1940. All parts of the state have enjoyed the attraction of new industries, but the industrial growth has been particularly outstanding in the Willamette Valley.

The future holds possibilities for further tremendous growth in many fields in Oregon. How soon this industrial expansion will take place depends a great deal on general business conditions and the effectiveness of industrial-development promotion work through the state.

In the food industry—which is second in employment in the state—an expansion of canning, preserving, and quick freezing is anticipated. There are many fertile acres in the Willamette Valley that can be more intensively cultivated to produce the high-quality strawberries, cane berries, and other fruits and vegetables that grow in profusion here. Expansion of agricultural production will lead to additional processing of these products in the state for national distribution. Opportunities also exist for the processing of more chickens, turkeys, and other fowl in this region. The canning of meat products such as chili, soups, etc. should provide a growing new industry.

In the field of wood utilization, the surface has been barely scratched. Too large a portion of our basic timber products still leave our state in the form of rough lumber. There are promising possibilities for additional wood utilization here, such as the manufacture of sash and doors and of fabricated structural materials, including wood trusses and beams. The basic Douglas-fir plywood produced in the region should be further utilized locally for the production of more fabricated plywood articles and furniture specialties. Although Oregon has an established furniture industry, there are additional opportunities in this field. Some of our woodworking plants produce special office desks and furniture; but there is no plant on the whole Pacific Coast producing a complete line of wood office furniture. The utilization of wood wastes for the production of cellulose, alcohol, plastics, and many other

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Opportunities for Expansion of Oregon Industry Surveyed

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derivatives of wood is also promising. A large proportion of these wastes are now being burned or destroyed.

Oregon's metalworking industry has expanded faster than other phases of its manufacturing economy; but there are still opportunities here for the production of special machinery and conveyor equipment used in our woodworking, paper, chemical, and food-processing industries, and for the production of agricultural implements. Although all of the major implement companies maintain warehouses here, only a few implements are produced in this area. With the expansion of agricultural production—particularly on the land to be brought into cultivation by irrigation projects—it would seem that assembly plants or the actual production of agricultural implements would be a "natural" for the area.

Although Oregon has one small integrated steel rolling mill producing steel from scrap, the Pacific Northwest needs additional basic steel production, particularly in the form of light-gauge sheets. Whether this area is an economic location for a blast furnace or an open-hearth steel plant is a question of raw materials and other factors which are now being investigated by the Raw Materials Survey, Inc. The production of additional ferro-alloys and stainless steel by electric-furnace methods offers definite possibilities when additional blocks of low-cost electric power become available.

The three aluminum reduction plants in the Portland area are capable of producing roughly 300 million pounds of aluminum pig a year. At the present time most of this pig aluminum is shipped east for conversion into sheets, bars, and extruded aluminum products. However, the Aluminum Co. of America is constructing a rod-and-bar mill at its Vancouver, Washington plant, and will also produce power-transmission cable. The production of other fabricated aluminum products holds great promise in the future. A few such products are already being produced here, such as aluminum griddles, die castings, shingles, etc., but the quantity of aluminum used is relatively small in comparison to the large production of this metal in this area. Eventually an aluminum extrusion plant or small sheet mill should be built to furnish intermediate aluminum products for further fabrication here.

For further integration in the aluminum industry, it is almost a certainty that the Aluminum Co. of America will treat Oregon laterites by the Bayer process to obtain their basic material, alumina. Undoubtedly offshore bauxite, to augment the local supply of materials, will also be utilized.

The chemical industry is one which has particular possibilities for Oregon—not only the electro-chemical industries but also the production of basic chemicals. There has been a start in this direction in recent years, but further expansion is anticipated. The chemical industry is a large user of water, and this area has unlimited quantities of soft, pure, cool water. Our supplies of certain raw materials and our low-cost electrical energy augur well for expansion in this field. Already caustic soda, chlorine, alum, paper, carbide, DDT, insecticides, and other chemical products are being made here. The production of hydrogen peroxide, in a new plant in the area, has been recently announced. The production of ammonia, superphosphate, and additional fertilizer materials is needed for use in the agricultural areas of the state. Basic materials such as sulphuric acid, hydrochloric acid, and quick lime are possibilities for future production.

Because of the tremendous quantities of cellulose in the Pacific Northwest, and the availability of other chemicals needed, the production of rayon, cellophane, and other cellulose derivatives will undoubtedly develop in the future. The production of phenol, pthalic anhydride, and other plastics should be further explored. These products could be used in our plywood and allied industries.

The production of glass in this territory, utilizing local silica sand and other Pacific Northwest raw materials, looks like a good possibility. Glass containers would be utilized by our food-processing and soft-drink industries. The production of plate glass or window glass would seem a definite possibility, since there is no producer on the Pacific Coast and the closest plant is in Oklahoma.

Matches and other chemical specialties, such as pharmaceuticals, are definite possibilities for this area. Expansion of basic leather tanning is also needed. Portland is the leading livestock assembling center on the Pacific Coast, but most of the hides produced in our packing plants have to be shipped elsewhere for tanning, since only two relatively small tanners are in operation in the state.

There are many other industries which logically belong here in Oregon. A few outstanding opportunities are the production of ceramic products, jewelry, hosiery, plumbing fixtures, and electric appliances. The growth of our population will bring about expansion of such consumer-goods industries as bakeries, soft-drink establishments, producers of dairy products, etc.

Increasing freight rates will bring about an ever-increasing decentralization of industry. This trend has already brought some sizeable new plants to Oregon. The new facilities of the National Biscuit Co., the Willard Storage Battery Co., the Continental Can Co., and the Quaker Oats Co. in Portland are examples.

Intensive study of new raw materials that could be brought to Portland from the Philippines, Australia, South America, and other off-shore points will undoubtedly suggest other industries for this area. A sugar refinery, the production of rubber goods, soaps, margarine, electrolytic zinc, and additional coffee roasting are a few that come to mind.

Industrial-development agencies in the state are not overlooking the possibilities of developing small industries in Oregon. Many of our present leading industries had very small beginnings. It is part of our responsibility to help the smaller companies that start up here over the "rough" spots. Finding new materials, new markets, and new products to manufacture are just a few of the ways

by which these small concerns can be helped to grow and expand in this area.

The future of Oregon and the entire Pacific Northwest looks particularly bright at the present time. However, our promotional activities must not be decreased; many of the industrial possibilities mentioned in this article will not be realized about unless businessmen of the state take advantage of the opportunities.

University of Oregon Sponsors Labor-Management Research

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ment research programs. These various institutions have developed a system of cooperation among themselves to keep each other informed concerning developments in various sections of the country, to lend each other materials from their libraries, and to improve the general status of knowledge in the field. The Labor-Management Project at the University of Oregon is the University's first step toward the building of a comparable organization for the state of Oregon.

The project was made possible by a grant of $1,000 from the University's General Research Fund. Most of the money is being used to pay a research assistant, whose job is to contact labor and industry organizations and government bureaus for information, and to analyze and classify the data obtained. To date two hundred and fifty letters have been written to employer and union groups and to research organizations (in addition to personal contacts) and over a hundred replies have been received. The project's budget does not include funds for the purchase of printed material, but many organizations are willing to place the project on their free mailing lists, and the response to the letters and personal contacts has been most gratifying. Although an important body of valuable material is not obtainable because of the lack of funds, the project already is receiving periodicals and pamphlets at the rate of three hundred per month. A complete set of the War Labor Board reports was donated by Senator Wayne Morse, and the Institute of Labor Economics at the University of Washington has sent the project duplicate material which it had in its files. Since it is to their mutual advantage to have the labor-management developments in Oregon systematically covered, the project has received the hearty cooperation and encouragement of the organizations at other universities on the Pacific Coast.

At present the project is concerned chiefly with the problem of collecting and classifying data. All material received is read and filed systematically. A cross-indexing system has been developed for every important article, in order to make the material readily usable for informational and research purposes. For instance, the project received an article entitled "What Is a Responsible Wage Policy?" by Arthur M. Ross, published by the Institute of Industrial Relations at the University of California. Four index cards were made for this article, one filed under "Ross, Arthur M.," the author, a second filed under "What Is a Responsible Wage Policy," the title, a third filed under "Wage Theory," the content, and the fourth filed under "Institute of Industrial Relations, University of California," the publishing institution. Although the project has been in operation only since the fall of 1948, and although it is underfinanced and understaffed, four hundred index cards already have been completed.

It is hoped that in the immediate future the project will have collected and classified sufficient data to form the basis of research in industrial relations, particularly by University of Oregon graduate students interested in the field. The project does not plan, however, to confine its activities to student research. As soon as the organization is functioning properly and has built up an adequate background, it expects to make its services available to business and labor organizations and to the public, and in that way to become a source of well-organized and unbiased information. When funds are available for the salaries of professional research workers, the project will enter actively into its own research program. All research will be aimed primarily toward labor-management problems arising in the state of Oregon.

Eventually it is hoped that the project will be able to cooperate with the Extension Division of the Oregon State System of Higher Education to provide adult-education courses in industrial relations. It is evident, from the excellent response to such course offerings by the University of California and the University of Washington, that there is a real need and demand for such courses. Courses in Labor Problems, Techniques of Collective Bargaining, and Labor Law and Labor Legislation, particularly, have aroused enthusiastic interest among public, labor, and management groups in those states.

The University's Labor-Management Project could aid materially in the development of this phase of extension activities in Oregon. The Extension Division has received numerous requests for such service, but so far the lack of qualified persons (which the project might provide) to carry on the work has greatly hindered activity in the field.

The project's program of research and education looks forward to the time when an Institute of Industrial Relations will be established at the University of Oregon. When that time comes the ground work will have been laid. Such an institute should be able to swing quickly into full activity, take over the project's work, and carry on with a greatly augmented program of service to the state in the general study of industrial relations.

Timber Industry Develops New Uses for Waste Products *

By JOHN M. TAYLOR
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The history of the timber industry is characterized by tremendous waste and ravaging of one of our most important natural resources. As timber stands join the ranks of our rapidly diminishing resources and show signs of possible exhaustion in the not-too-distant future, science has invaded the field in an effort to preserve and perpetuate existing supplies and to find new uses for our present annual harvest of timber. All manner of products are now being developed from material which was once burned at considerable cost to the timbermen.

As competition in the industry becomes greater, those

* Prepared under the direction of C. F. Ziebarth, associate of professor of administration, University of Oregon.

companies operating on a long-range basis are adding new waste-utilizing units to their existing plants; and many complete manufacturing plants devoted entirely to the processing of lumber waste materials are being built. There are numerous products which result from these processes; in a summary such as this it is necessary to confine the discussion to a few of the most important.

One of the simpler processes is illustrated by the recovery program now employed in a medium-sized Northwest sawmill. The slabs and edgings are run through a hydraulic debarker in which 1250-1600 P.S.I. of water pressure makes clean wood of this waste material. This wood is then passed through chippers. The fine sawdust is used as fuel for the boilers, along with bark and some other scrap which has been hogged for this purpose. The chips are sent to hoppers from which railroad cars are loaded to take the material to pulp mills where it is further manufactured into pulp and thence into paper. In this sawmill, even the burned fuel in the boilers is used again. The charcoal particles are blown into a large steel hopper outside the powerhouse. A forced-draft system is then employed to feed the charcoal back into the boilers for reburning, leaving nothing but a small amount of fine powder as final waste.

It is interesting to see what science has done with much of the waste and scrap formerly left in the woods to be burned or to rot. It has been found that this material can be the source of carbohydrates for supplementary stock feed and several other products of value to agriculture. The principal step in the process of extracing these materials is that of producing wood sugar by hydrolysis and evaporation. The residual wood extracts make the sugar solutions bitter; a method for removing this factor is being studied.

Molasses, containing about 45 per cent of fermentable sugar, is also being made from Douglas-fir sawmill waste for feeding poultry. Unlike other molasses, the wood molasses does not possess laxative properties, probably because of a difference in mineral content.

A use for the pentose (unfermentable) sugars from wood waste is the development of Torula (a species of fungus) yeast, suitable for a feed yeast.

Ponderosa-pine stumps yield naval stores (turpentine, rosin, pine tar, etc.); the yield is as high as 800 pounds and averages 500 pounds per stump.

The operations of a small concern which has just been established at Sacramento, California, to make wall panels and floor tiles from wood waste, are a good example of a processing plant using only the sawdust and shavings from the lumber and box-factory plants it adjoins. Principles of compression are utilized in the molding of sawdust and shavings blended with thermo-plastic conditioners. The wall-panel presses will develop (through oil-operated hydraulic presses) 3 million pounds pressure per panel and the floor-tile presses 6 million pounds. This plant is producing panels from shavings in remarkable color combinations; the board is noncrumbling and nail holding—it will not puncture under such blows as it might receive in the process of being applied to walls during construction. The plant also uses sawdust to manufacture floor tiles having a high abrasive resistance and a flexibility equal to that of any now on the market.

A simple remanufacturing process, the product of which is familiar to all of us, is that of making "Pres-to-logs." This process consists merely of subjecting the sawdust to terriffic pressure to form it into cylindrical "logs." The amount of such production depends upon the season of the year and the demand.

Extensive experiments with old sawdust are proving it to be an excellent humus material. Supplies are being used for this purpose from mill settings over twenty years of age. Fresh sawdust is being used by dairymen for bedding on their farms. It not only supplies an excellent bedding for their stock, but, when the manure is removed and spread on crop lands, the sawdust becomes both a soil conditioner and a crop stimulator.

Home insulation is another broad outlet tapped by science in its attempt to find new and better uses for wood-waste products. Small woods, such as slabs, edgings, peeler cores, and other salvageable wood from logging operations, are poured into a chipper from various points of origin; the chipped material is screened. It is then placed in revolving digesters, where a mild but thorough steaming process softens it for pulping. Sizing and chemicals are added and the pulp heads for the Fourdrinier screen (basically the same type as used in paper making) where it is formed into an endless mat. This mat enters powerful rollers where the heavy pulp blanket comes out as a finished board.

Wood flour, essential in the making of plastics, probably has as wide a potential for future products as any of the waste products now being made. Wood flour is made from wood wastes ranging from slashings to large logs. It is in demand as a base for all plastic molding powders, filler, and especially in the manufacture of linoleums and several hard-board products. The rate of failure has been high for those who have attempted to enter this field. The principal producers of wood flour have been in the business a long time and have succeeded chiefly because of their knowledge of the industry and the exacting requirements of consumers.

Probably one of the most interesting developments in the full-utilization program is the production of ethyl alcohol from wood. Although there are numerous processes now in existence for performing this operation, the principal ones are the extraction from pulp liquor (this is done at a pulp plant in Bellingham, Washington) and from wood waste (in experimental runs at the government plant in Springfield, Oregon). The processes are entirely too complex for descriptions here, but the former has been more successful.

The economic potentialities of the wood-waste process depend on the profitable use of the residue after the evaporation of the alcohol. For each ton of dry wood waste (Douglas fir) containing 25-30 per cent bark, about 700 pounds of residue is obtained. This is equivalent to 14-18 pounds of residue for each gallon of alcohol produced. This residue, on a dry basis, consists of lignin, bark residues, and small amounts of residual fibrous cellulosic material. If a value of one cent per pound above processing costs can be obtained for the lignin, the production of lignin may become as valuable a part of the process as the production of alcohol. Approximately 44 per cent of the total fuel value of Douglas-fir wood waste is recovered in the lignin residue. (Lignin is an organic substance which, with cellulose, forms the chief part of woody tissue.) Compared to the fuel value of wood on a dry-weight basis, lignin has about 25 per cent greater fuel value.

At the wood-saccharification plant at Ems, Switzerland, which is the most modern plant in Europe, the lignin by-

product is briquetted for use as fuel to supply power to the plant. It has been proposed that the lignin from the Springfield plant could also be used as plant fuel in mixture with the necessary amount of sawdust, or the mixture could be briquetted and sold to domestic fuel users.

Agricultural laboratories report that potatoes grown in soil containing lignin show a marked improvement in both yield and starch content. Experiments are also in progress to obtain information on the value of lignin as a mulch and a soil builder. Reports from Germany indicate that wood-hydrolysis lignin has been used successfully as a soil builder in that country for years. However, its usefulness in the United States has yet to be determined.

Experiments have shown that lignin has very little plastic flow without the addition of large amounts of resins. Therefore, its value in the Bakelite-type resins is limited unless other resins are found in which greater flow of lignin will be produced. Lignin has been found unsuitable as a resin filler because the fibers which are necessary to such fillers have been removed in the wood-hydrolysis process. The use of lignin in gypsum wallboard in combination with calcined gypsum has been found to result in a much lighter board with no appreciable difference in flexural strength. The nailing properties of the boards are also comparable to the usual gypsum board containing no lignin. Thus it is possible that a great variety of products may be made from wood waste by hydrolysis and subsequent processing. Much remains to be done to determine which, if any, of them can be produced at a profit.

Conversion of Douglas-fir bark for use in five new forest products at Weyerhaeuser plant at Longview, Washington, is the most recent success in wood-waste utilization. What formerly represented an approximate 12 per cent waste in logging, lumber, and pulp operations is now being processed into a marketable raw material for phonograph records, explosives, plastics, insecticides, glues, soil conditioners, etc. The new products are the result of nearly ten years of research by various lumber companies, government agencies, schools, laboratories, and individuals. The five new products, marketed under the trade name of "Silvacon," were made available last year for world consumption. All five products are composed of elements in bark, cork, fiber, powder, and combinations of these elements. The finished product ranges in size from quarter-inch flakes to a very fine powder. Only the thick bark of Douglas fir is being used in the new Weyerhaeuser plant. Barks of all Pacific Coast conifers are usable; but, since they differ chemically and physically, they must be processed separately. At Weyerhaeuser's plant, utilization integration reaches its peak in the production of Silvacon No. 472, used as an adhesive component in plywood manufacture.

Maximum capacity of the Silvacon plant, on a three-shift basis, is approximately 75,000 pounds a day—enough to fill one and one-half freight cars. All details of the manufacturing process are not available as yet; but the thick fir bark is converted into Silvacon products by a series of grinding and screening sequences.

One of the five materials, Silvacon No. 383, is a soil-conditioning product. It consists predominantly of light brown particles of cork, ranging upward to one-fourth inch in size; it is thermoplastic in nature and highly alkali soluble. It has also been used successfully as a fuel in meat curing. Experimentally it is being used as absorbent filler for explosives, in plaster, acoustical products, flooring materials, cork products, cleaning compounds, adhesive formulations, heat treating of metals, buffing compounds, rubber products, asphalt compounds, antisweat paints, gaskets, cements, and burnout filler. This product accounts for 20 per cent of total production.

The other four materials are for industrial use by manufacturers of articles ranging from soles for shoes, brick, plastics, molding, radio recording records for electrical transcriptions, radio and phone parts, electrical connections, and numerous other articles.

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CURRENT BUSINESS TRENDS IN OREGON

Employment. Although Oregon employment maintained a new off-season high of more than 600,000 as December 1948 opened, it is doubtful if that figure was held through the month. The number of unemployed actively seeking work jumped from a summer low of 20,300 to 39,000 on December 1 and to 46,000 the week before Christmas. Continued widespread layoffs in the lumber industry, adding to the normal seasonal letdowns in food processing, resorts, and related industries, makes the winter unemployment peak difficult to estimate; but it seems safe to predict that the 1945-46 high of 71,000 idle workers will not be approached. The relationship of unemployed to the total labor force at certain dates is shown below.

	Total Labor Force	*Unemployed*	*Per Cent Unemployed*
December 1948	641,000	39,000	6.1
September 1948	657,000	20,300	3.1
March 1948	604,600	50,500	8.4
December 1947	618,000	37,000	6.0
March 1947	578,000	51,000	9.0
March 1940	453,382	63,584	14.0

In spite of recent widespread layoffs, Oregon employers expect employment in January, February, and March 1949 to remain at fairly good levels. The Unemployment Compensation Commission reports the following expectations by employers in specific lines:

Construction. Employment will decline 13 per cent during the period between mid-November and mid-March. The mid-November figure was already 27 per cent below the September peak. This forecast is based on reports from 21 constructions firms.

Food Processing. The employment in this industry will continue to decline seasonally until by March only 40 per cent as many workers will be employed as there were in September.

Lumbering and Logging. One hundred sixty of the large and more stable mills and other operations indicate only a 2.5 per cent drop in January, with practically full recovery to November levels by mid-March. Smaller mills, however, will probably experience greater reductions in working forces during the winter because of weather and price uncertainties.

Department Stores Sales. The percentage changes from the same period a year ago of the value of department-store sales for the principal cities west of the Rockies is shown below. Although the Portland figures do not compare well with other cities for the week ending January 8, they do for the cumulative total of the preceding 49 weeks.

City	*Week Ending Jan. 8, 1949*	*Fiscal Year to Jan. 8, 1949 (49 weeks)*
Portland	+ 5	+ 6
Los Angeles	+14	− 1
San Diego	+27	+ 7
Oakland	+ 8	+ 2
San Francisco	+16	+ 6
Seattle	+ 7	+ 2
Spokane	+ 5	+ 2
Salt Lake City	0	+ 2
United States	+ 9	Not available

Lumber. The 1948 production of lumber in the Douglas-fir area of Oregon and Washington was slightly lower than production in 1947. The reasons were the spring floods along the Columbia, boom and longshore strikes, and a sharp reduction in output the last quarter, which was particularly pronounced among marginal operators. During December the average weekly production was 135,419,000 board feet and orders were 130,626,000 board feet. The gross stocks were 983,324,000 board feet at the end of December, whereas at the end of the preceding month they were 932,381,000 board feet.

Agriculture. Oregon's 1948 wheat crop on October 1 was estimated at 28.6 million bushels, 32.3 per cent above the 1947 level. Because of the late spring many farmers shifted from oats to barley, with the result that oat production is down 26.6 per cent from 1947 and barley up 24.4 per cent. The potato crop is expected to approximate 12.0 million bushels, 18.7 per cent above the 1947 crop. Pear production was down 18.2 per cent; a much higher proportion than usual moved to the processing market because of the increased percentage of hail-marked fruit in the Rogue River Valley.

BANK DEBITS

Bank debits represent the dollar value of the checks drawn against individual deposits. Approximately 90 per cent of all goods, property, and services is paid for by check. Bank debits are regarded as indicators of the general trend of business, though their value for this purpose may be impaired by substantial changes in the level of prices. The Bureau of Business Research collects bank debits from 104 banks and branches monthly. On occasion, the totals for the same month in different issues of the *Review* are not directly comparable because of necessary adjustments in basic data.

	Number of Banks Reporting	*Debits Nov. 1948*	*Debits Oct. 1948*	*Debits Nov. 1947*	*Nov. 1948 compared with Oct. 1948*	*Nov. 1948 compared with Nov. 1947*
Oregon	91	$1,041,097,453	$982,440,115	$896,493,846	+ 5.97%	+16.13%
Portland (Portland, Hillsboro, Oregon City, etc.)	27	674,732,045	595,540,781	561,857,783	+13.30	+20.09
Lower Willamette Valley (Salem, McMinnville, etc.)	11	76,378,805	81,338,334	71,137,247	− 6.10	+ 7.37
Upper Willamette Valley (Albany, Corvallis, Eugene, etc.)	10	91,886,795	93,522,329	78,094,659	− 1.75	+17.66
North Oregon Coast (Astoria, Tillamook, etc.)	4	19,586,898	21,505,552	19,825,772	− 8.92	− 1.20
Douglas, Coos Bay	4	20,189,980	21,817,907	19,533,590	− 7.46	+ 3.36
Southern Oregon (Ashland, Medford, Grants Pass)	5	40,556,976	43,766,463	37,635,560	− 7.33	+ 7.76
Upper Columbia River (The Dalles, Hood River, etc.)	7	19,243,384	19,710,039	15,985,579	− 2.37	+20.38
Pendleton area	6	19,930,326	21,611,527	17,429,158	− 7.78	+14.35
Central Oregon (Bend, Prineville, Redmond)	4	13,764,430	71,593,530	15,409,403	−21.77	−10.68
Klamath Falls, Lakeview area	4	30,851,397	33,244,300	28,255,035	− 7.20	+ 9.19
Baker, La Grande area	6	22,617,037	21,918,693	20,337,100	+ 3.19	+11.21
Burns, Ontario, Nyssa	3	11,359,380	10,870,660	10,992,960	+ 4.49	+ 3.33

BUILDING PERMITS

Building permits give an indication of building operations planned rather than actual construction under way. Care must be taken, in interpreting these data, to allow for the lag which may elapse between the issuance of the permit and the beginning of actual construction. The data have been collected by the Bureau of Business Research.

	New Residential Nov. 1948	*New Nonresidential Nov. 1948*	*Additions, Alterations & Repairs Nov. 1948*	*Totals Nov. 1948*	*Totals Nov. 1947*	*Totals Oct. 1948*
Albany	$ 32,880	$ 10,090	$ 12,100	$ 55,070	$ 88,560	$ 44,860
Astoria	9,500	2,950	3,755	16,205	38,680	64,730
Baker	7,000	7,800	10,075	24,875	93,150	8,960
Bend	87,500	1,400	18,940	107,840	82,971	59,368
Coos Bay	23,400	2,000	6,800	32,200	78,820	67,925
Corvallis	38,500	800	8,130	47,430	81,055	80,450
Eugene	117,100	101,775	25,470	244,345	254,520	1,856,780
Grants Pass	62,550	31,475	5,041	99,066	89,679	203,681
Klamath Falls	29,000	950	16,852	46,812	83,335	93,395
La Grande	.....	575	2,250	2,825	12,802	16,380
Medford	80,800	29,100	15,640	125,540	190,545	206,090
Oregon City	4,000	13,000	2,245	19,245	6,350	24,000
Portland	1,041,375	518,050	481,050	2,040,475	2,784,075	6,836,965
Salem	186,200	109,256	51,970	347,426	341,575	342,217
The Dalles	26,000	.....	4,965	30,965	153,990	44,085
20 other communities	1,331,800	98,305	83,139	1,513,244	427,884	542,905
Totals	$3,077,605	$ 927,526	$ 748,432	$4,753,563	$4,807,991	$10,492,791